SEQUENCE LISTING

<110> Sagami Chemical Research Center et al.

<120> Human Proteins Having Transmembrane Domains and DNAs Encoding these Proteins

<130> 661098

<141> 1999-02-25

<150> JP 10-046607
<151> 1998-02-27

<160> 28

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<212> PRT
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Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu Val Lys
20 25 30

Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser Lys Lys
35 40 45

Gly Asp Leu Leu Asn Ala His Tyr Asp Gly Tyr Leu Ala Lys Asp Gly
50 55 60

Ser Lys Phe Tyr Cys Ser Arg Thr Gln Asn Glu Gly His Pro Lys Trp
65 70 75 80
Phe Val Leu Gly Val Gly Gln Val Ile Lys Gly Leu Asp Ile Ala Met
85 90 95
Thr Asp Met Cys Pro Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser
100 105 110
Phe Ala Tyr Gly Lys Glu Gly Tyr Asp Lys Pro Leu Leu Ala Lys Gly
115 120 125
Ile

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<212> PRT
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20 25 30
Leu Thr Val Ser Glu Trp Leu Arg Leu Leu Pro Phe Leu Gly Val Leu
35 40 45
Ala Leu Leu Gly Tyr Leu Ala Val Arg Pro Phe Leu Pro Lys Lys Lys
50 55 60
Gln Gln Lys Asp Ser Leu Ile Asn Leu Lys Ile Gln Lys Glu Asn Pro
65 70 75 80
Lys Val Val Asn Glu Ile Asn Ile Glu Asp Leu Cys Leu Thr Lys Ala
85 90 95
Ala Tyr Cys Arg Cys Trp Arg Ser Lys Thr Phe Pro Ala Cys Asp Gly
100 105 110
Ser His Asn Lys His Asn Glu Leu Thr Gly Asp Asn Val Gly Pro Leu
115 120 125

Ile Leu Lys Lys Lys Glu Val
130 135

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<212> PRT
<213> Homo sapiens

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20 25 30
Ala Gly Ala Leu Phe Gly Thr Phe Ser Cys Leu Arg Ile Gly Met Arg
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Gly Arg Glu Leu Met Gly Gly Ile Gly Lys Thr Met Met Gln Ser Gly
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65 70 75

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<400> 4
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Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys Asn Thr Leu
35 40 45

Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala Phe Phe Cys Val
50 55 60

Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu Gly Leu Asn Met Pro
65 70 75 80

Leu Leu Ala Tyr His Ile Trp Arg Tyr Met Ser Arg Pro Val Met Ser
85 90 95

Gly Pro Gly Leu Tyr Asp Pro Thr Thr Ile Met Asn Ala Asp Ile Leu
100 105 110

Ala Tyr Cys Gln Lys Glu Gly Trp Cys Lys Leu Ala Phe Tyr Leu Leu
115 120 125

Ala Phe Phe Tyr Tyr Leu Tyr Gly Met Ile Tyr Val Leu Val Ser Ser
130 135 140

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<211> 282

<212> PRT

<213> Homo sapiens

<400> 5

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Ala Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln Ala Ala Gly
35 40 45

Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln Cys Arg Thr Ser
50 55 60

Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp Arg Asp Leu Asp Cys
65 70 75 80

Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg Ile Glu Pro Cys Thr Gln
85 90 95

Lys Gly Gln Cys Pro Pro Pro Pro Gly Leu Pro Cys Pro Cys Thr Gly

100 105 110

Val Ser Asp Cys Ser Gly Gly Thr Asp Lys Lys Leu Arg Asn Cys Ser

115 120 125

Arg Leu Ala Cys Leu Ala Gly Glu Leu Arg Cys Thr Leu Ser Asp Asp

130 135 140

Cys Ile Pro Leu Thr Trp Arg Cys Asp Gly His Pro Asp Cys Pro Asp

145 150 155 160

Ser Ser Asp Glu Leu Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly

165 170 175

Asp Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser

180 185 190

Leu Arg Asn Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val

195 200 205

Pro Ser Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly

210 215 220

Ser Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Ser Ala

225 230 235 240

Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala Gln

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Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu Ser Leu

260 265 270

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35 40 45
Val Pro Pro Thr Glu Glu Thr Leu Ser Glu Pro Asn Phe Tyr Asp Thr
50 55 60
Ile Ser Lys Ile Arg Leu Arg Gln Gln Leu Glu Met Tyr Ser Ile Ser
65 70 75 80
Arg Lys Tyr Asp Tyr Gln Gln Pro Gln Asn Gln Ala Asp Ser Val Gln
85 90 95
Leu Ser Leu Glu
100

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<213> Homo sapiens

<400> 7
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35 40 45
Gly Ser Ser Arg Leu Leu Val Ala Ser Trp Val Met Gln Ile Val Leu
50 55 60
Gly Ile Leu Ser Ala Val Leu Gly Gly Phe Phe Tyr Ile Arg Asp Tyr
65 70 75 80
Thr Leu Leu Val Thr Ser Gly Ala Ala Ile Trp Thr Gly Ala Val Ala
85 90 95
Val Leu Ala Gly Ala Ala Ala Phe Ile Tyr Glu Lys Arg Gly Gly Thr

100 105 110

Tyr Trp Ala Leu Leu Arg Thr Leu Leu Ala Leu Ala Ala Phe Ser Thr

115 120 125

Ala Ile Ala Ala Leu Lys Leu Trp Asn Glu Asp Phe Arg Tyr Gly Tyr

130 135 140

Ser Tyr Tyr Asn Ser Ala Cys Arg Ile Ser Ser Ser Ser Asp Trp Asn

145 150 155 160

Thr Pro Ala Pro Thr Gln Ser Pro Glu Glu Val Arg Arg Leu His Leu

165 170 175

Cys Thr Ser Phe Met Asp Met Leu Lys Ala Leu Phe Arg Thr Leu Gln

180 185 190

Ala Met Leu Leu Gly Val Trp Ile Leu Leu Leu Leu Ala Ser Leu Ala

195 200 205

Pro Leu Trp Leu Tyr Cys Trp Arg Met Phe Pro Thr Lys Gly Val Ser

210 215 220

Pro

225

<210> 8

<211> 387

<212> DNA

<213> Homo sapiens

<400> 8

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aactgctcta agacaagcaa gaagggagac ctactaaatg cccattatga cggctacctg 180

gctaaagacg gctcgaaatt ctactgcagc cggacacaaa atgaaggcca ccccaaatgg 240

tttgttcttg gtgttgggca agtcataaaa ggcctagaca ttgctatgac agatatgtgc 300

cctggagaaa agcgaaaagt agttataccc ccttcatttg catacggaaa ggaaggctat 360

gataaacctc tacttgcaaa gggaatt 387

<210> 9

<211> 405

<212> DNA

<213> Homo sapiens

<400> 9

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ctcccagtcc ctgaaagcat taccgggttc gctaggctca cagtttcaga atggcttcgg 120

ttattgcctt tccttggtgt actcgcactt cttggctacc ttgcagttcg tccattcctc 180

ccgaagaaga aacaacagaa ggatagcttg attaatctta aaatacaaaa ggaaaatccg 240

aaagtagtga atgaaataaa cattgaagat ttgtgtctta ctaaagcagc ttattgtagg 300

tgttggcgtt ctaaaacgtt tcctgcctgc gatggttcac ataataaaca caatgaattg 360

acaggagata atgtgggtcc actaatactg aagaagaaag aagta 405

<210> 10

<211> 237

<212> DNA

<213> Homo sapiens

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tcctgtctca ggatcggaat gcggggtcga gagctgatgg gcggcattgg gaaaaccatg 180

atgcagagtg gcggcacctt tggcacattc atggccattg ggatgggcat ccgatgc 237

<210> 11

<211> 432

<212> DNA

<213> Homo sapiens

<400> 11

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cctatagacc agtgtaatac cctgaatccc cttgtactcc cagagtacct catccacgct 180
ttcttctgtg tcatgtttct ttgtgcagca gagtggctta cactgggtct caatatgccc 240
ctcttggcat atcatatttg gaggtatatg agtagaccag tgatgagtgg cccaggactc 300
tatgacccta caaccatcat gaatgcagat attctagcat attgtcagaa ggaaggatgg 360
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ttggtgagct ct 432

<210> 12
<211> 846
<212> DNA
<213> Homo sapiens

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ccgacctctg cccaggccgc aggccccagc tcaggctcgt gcccacccac caagttccag 180
tgccgcacca gtggcttatg cgtgcccctc acctggcgct gcgacaggga cttggactgc 240
agcgatggca gcgatgagga ggagtgcagg attgagccat gtacccagaa agggcaatgc 300
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gacaagaaac tgcgcaactg cagccgcctg gcctgcctag caggcgagct ccgttgcacg 420
ctgagcgatg actgcattcc actcacgtgg cgctgcgacg gccacccaga ctgtcccgac 480
tccagcgacg agctcggctg tggaaccaat gagatcctcc cggaagggga tgccacaacc 540
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ccccctgtga ccctggagag tgtcccctct gtcgggaatg ccacatcctc ctctgccgga 660
gaccagtctg gaagcccaac tgcctatggg gttattgcag ctgctgcggt gctcagtgca 720
agcctggtca ccgccaccct cctccttttg tcctggctcc gagcccagga gcgcctccgc 780
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ctgccc 846

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<211> 300

<212> DNA

<213> Homo sapiens

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gtttacttga tagttatcct tgttagcttc ggtctcttca tgtatgccaa aaggaacaaa 120

aggagaatta tgaggatatt cagtgtgcca cctacagagg aaactttgtc agagcccaac 180

ttttatgaca cgataagcaa gattcgttta agacaacaac tggaaatgta ttccatttca 240

agaaagtacg actatcagca gccacaaaac caagctgaca gtgtgcaact ctcattggaa 300

<210> 14

<211> 675

<212> DNA

<213> Homo sapiens

<400> 14

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gtgcacatcc accaggagtc tgccctggcc aagctcctgc tcacctgctg ctctgcgctg 120

cggccccggg ccacccaggc caggggcagc agccggctgc tggtggcctc gtgggtgatg 180

cagatcgtgc tggggatctt gagtgcagtc ctaggaggat ttttctacat ccgcgactac 240

accctcctcg tcacctcggg agctgccatc tggacagggg ctgtggctgt gctggctgga 300

gctgctgcct tcatttacga gaaacggggt ggtacatact gggccctgct gaggactctg 360

ctagcgctgg cagctttctc cacagccatc gctgccctca aactttggaa tgaagatttc 420

cgatatggct actcttatta caacagtgcc tgccgcatct ccagctcgag tgactggaac 480

actccagccc ccactcagag tccagaagaa gtcagaaggc tacacctatg tacctccttc 540

atggacatgc tgaaggcctt gttcagaacc cttcaggcca tgctcttggg tgtctggatt 600

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aaaggggtga gtccc 675

<210> 15

<211> 761

<212> DNA

<213> Homo sapiens

<400> 15

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ccaaaaacc atg cat ttc tta ttc aga ttc att gtt ttc ttt tat ctg tgg 111
Met His Phe Leu Phe Arg Phe Ile Val Phe Phe Tyr Leu Trp
1 5 10

ggc ctt ttt act gct cag aga caa aag aaa gag gag agc acc gaa gaa 159
Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu
15 20 25 30

gtg aaa ata gaa gtt ttg cat cgt cca gaa aac tgc tct aag aca agc 207
Val Lys Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser
35 40 45

aag aag gga gac cta cta aat gcc cat tat gac ggc tac ctg gct aaa 255
Lys Lys Gly Asp Leu Leu Asn Ala His Tyr Asp Gly Tyr Leu Ala Lys
50 55 60

gac ggc tcg aaa ttc tac tgc agc cgg aca caa aat gaa ggc cac ccc 303
Asp Gly Ser Lys Phe Tyr Cys Ser Arg Thr Gln Asn Glu Gly His Pro
65 70 75

aaa tgg ttt gtt ctt ggt gtt ggg caa gtc ata aaa ggc cta gac att 351
Lys Trp Phe Val Leu Gly Val Gly Gln Val Ile Lys Gly Leu Asp Ile
80 85 90

gct atg aca gat atg tgc cct gga gaa aag cga aaa gta gtt ata ccc 399
Ala Met Thr Asp Met Cys Pro Gly Glu Lys Arg Lys Val Val Ile Pro
95 100 105 110

cct tca ttt gca tac gga aag gaa ggc tat gat aaa cct cta ctt gca 447
Pro Ser Phe Ala Tyr Gly Lys Glu Gly Tyr Asp Lys Pro Leu Leu Ala
115 120 125

aag gga att tgaaaaagat gagaagccac gtgacaagtc atatcaggat gcag 500
Lys Gly Ile

ttttagaaga tatttttaag aagaatgacc atgatggtga tggcttcatt tctcccaagg 560

aatacaatgt ataccaacac gatgaactat agcatatttg tatttctact ttttttttta 620
gctatttact gtactttatg tataaaacaa agtcactttt ctccaagttg tatttgctat 680
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gtgaggctgt tttgcaaact t 761

<210> 16
<211> 129
<212> PRT
<213> Homo sapiens

<400> 16

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Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu
15 20 25 30
Val Lys Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser
35 40 45
Lys Lys Gly Asp Leu Leu Asn Ala His Tyr Asp Gly Tyr Leu Ala Lys
50 55 60
Asp Gly Ser Lys Phe Tyr Cys Ser Arg Thr Gln Asn Glu Gly His Pro
65 70 75
Lys Trp Phe Val Leu Gly Val Gly Gln Val Ile Lys Gly Leu Asp Ile
80 85 90
Ala Met Thr Asp Met Cys Pro Gly Glu Lys Arg Lys Val Val Ile Pro
95 100 105 110
Pro Ser Phe Ala Tyr Gly Lys Glu Gly Tyr Asp Lys Pro Leu Leu Ala
115 120 125
Lys Gly Ile

<210> 17
<211> 701
<212> DNA

<213> Homo sapiens

<400> 17

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Met Val Leu Glu
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Ser Val Ala Arg Ile Val Lys Val Gln Leu Pro Ala Tyr Leu Lys Arg
5 10 15 20

ctc cca gtc cct gaa agc att acc ggg ttc gct agg ctc aca gtt tca 153
Leu Pro Val Pro Glu Ser Ile Thr Gly Phe Ala Arg Leu Thr Val Ser
25 30 35

gaa tgg ctt cgg tta ttg cct ttc ctt ggt gta ctc gca ctt ctt ggc 201
Glu Trp Leu Arg Leu Leu Pro Phe Leu Gly Val Leu Ala Leu Leu Gly
40 45 50

tac ctt gca gtt cgt cca ttc ctc ccg aag aag aaa caa cag aag gat 249
Tyr Leu Ala Val Arg Pro Phe Leu Pro Lys Lys Lys Gln Gln Lys Asp
55 60 65

agc ttg att aat ctt aaa ata caa aag gaa aat ccg aaa gta gtg aat 297
Ser Leu Ile Asn Leu Lys Ile Gln Lys Glu Asn Pro Lys Val Val Asn
70 75 80

gaa ata aac att gaa gat ttg tgt ctt act aaa gca gct tat tgt agg 345
Glu Ile Asn Ile Glu Asp Leu Cys Leu Thr Lys Ala Ala Tyr Cys Arg
85 90 95 100

tgt tgg cgt tct aaa acg ttt cct gcc tgc gat ggt tca cat aat aaa 393
Cys Trp Arg Ser Lys Thr Phe Pro Ala Cys Asp Gly Ser His Asn Lys
105 110 115

cac aat gaa ttg aca gga gat aat gtg ggt cca cta ata ctg aag aag 441
His Asn Glu Leu Thr Gly Asp Asn Val Gly Pro Leu Ile Leu Lys Lys
120 125 130

aaa gaa gta taataataat aacaatattt tctcattctt tgtgtataga 490
Lys Glu Val

135

aaattttaaa atggtggtct taattattac tactggttga acaattattt cttccaattt 550

attttcttcc tgcactactg tttgtatttg atcctttgtc tattcagtca cttaattaga 610

aattaaattg tcaagcctct tattctgact tcaaagaatt aatgtatctt ccaacaataa 670

aatcacttct gattttaatc taggaaaacc t 701

<210> 18

<211> 135

<212> PRT

<213> Homo sapiens

<400> 18

Met Val Leu Glu
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Ser Val Ala Arg Ile Val Lys Val Gln Leu Pro Ala Tyr Leu Lys Arg
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Leu Pro Val Pro Glu Ser Ile Thr Gly Phe Ala Arg Leu Thr Val Ser
25 30 35

Glu Trp Leu Arg Leu Leu Pro Phe Leu Gly Val Leu Ala Leu Leu Gly
40 45 50

Tyr Leu Ala Val Arg Pro Phe Leu Pro Lys Lys Lys Gln Gln Lys Asp
55 60 65

Ser Leu Ile Asn Leu Lys Ile Gln Lys Glu Asn Pro Lys Val Val Asn
70 75 80

Glu Ile Asn Ile Glu Asp Leu Cys Leu Thr Lys Ala Ala Tyr Cys Arg
85 90 95 100

Cys Trp Arg Ser Lys Thr Phe Pro Ala Cys Asp Gly Ser His Asn Lys
105 110 115

His Asn Glu Leu Thr Gly Asp Asn Val Gly Pro Leu Ile Leu Lys Lys
120 125 130

Lys Glu Val
135

<210> 19

<211> 393

<212> DNA

<213> Homo sapiens

<400> 19

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Met Pro Val Ala Val Gly Pro Tyr Gly Gln Ser

1 5 10

cag cca agc tgc ttc gac cgt gtc aaa atg ggc ttc gtg atg ggt tgc 161

Gln Pro Ser Cys Phe Asp Arg Val Lys Met Gly Phe Val Met Gly Cys

15 20 25

gcc gtg ggc atg gcg gcc ggg gcg ctc ttc ggc acc ttt tcc tgt ctc 209

Ala Val Gly Met Ala Ala Gly Ala Leu Phe Gly Thr Phe Ser Cys Leu

30 35 40

agg atc gga atg cgg ggt cga gag ctg atg ggc ggc att ggg aaa acc 257

Arg Ile Gly Met Arg Gly Arg Glu Leu Met Gly Gly Ile Gly Lys Thr

45 50 55

atg atg cag agt ggc ggc acc ttt ggc aca ttc atg gcc att ggg atg 305

Met Met Gln Ser Gly Gly Thr Phe Gly Thr Phe Met Ala Ile Gly Met

60 65 70 75

ggc atc cga tgc taaccatggt tgccaactac atctgtccct tcc 350

Gly Ile Arg Cys

ggc atc cga tgc taaccatggt tgccaactac atctgtccct tcccatcaat ccc 360

Gly Ile Arg Cys

agcccatgta ctaataaaag aaagtctttg agt 393

<210> 20

<211> 83

<212> PRT

<213> Homo sapiens

<400> 20

Met Pro Val Ala Val Gly Pro Tyr Gly Gln Ser
1 5 10
Gln Pro Ser Cys Phe Asp Arg Val Lys Met Gly Phe Val Met Gly Cys
15 20 25
Ala Val Gly Met Ala Ala Gly Ala Leu Phe Gly Thr Phe Ser Cys Leu
30 35 40
Arg Ile Gly Met Arg Gly Arg Glu Leu Met Gly Gly Ile Gly Lys Thr
45 50 55
Met Met Gln Ser Gly Gly Thr Phe Gly Thr Phe Met Ala Ile Gly Met
60 65 70 75
Gly Ile Arg Cys
Gly Ile Arg Cys

<210> 21
<211> 1033
<212> DNA
<213> Homo sapiens

<400> 21

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Met Ala Phe
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acg ttc gcg gcc ttc tgc tac atg ctg gcg ctg ctg ctc act gcc gcg 104
Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu Leu Thr Ala Ala
5 10 15

ctc atc ttc ttc gcc att tgg cac att ata gca ttt gat gag ctg aag 152
Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala Phe Asp Glu Leu Lys
20 25 30 35

act gat tac aag aat cct ata gac cag tgt aat acc ctg aat ccc ctt 200

Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys Asn Thr Leu Asn Pro Leu
40 45 50

gta ctc cca gag tac ctc atc cac gct ttc ttc tgt gtc atg ttt ctt 248
Val Leu Pro Glu Tyr Leu Ile His Ala Phe Phe Cys Val Met Phe Leu
55 60 65

tgt gca gca gag tgg ctt aca ctg ggt ctc aat atg ccc ctc ttg gca 296
Cys Ala Ala Glu Trp Leu Thr Leu Gly Leu Asn Met Pro Leu Leu Ala
70 75 80

tat cat att tgg agg tat atg agt aga cca gtg atg agt ggc cca gga 344
Tyr His Ile Trp Arg Tyr Met Ser Arg Pro Val Met Ser Gly Pro Gly
85 90 95

ctc tat gac cct aca acc atc atg aat gca gat att cta gca tat tgt 392
Leu Tyr Asp Pro Thr Thr Ile Met Asn Ala Asp Ile Leu Ala Tyr Cys
100 105 110 115

cag aag gaa gga tgg tgc aaa tta gct ttt tat ctt cta gca ttt ttt 440
Gln Lys Glu Gly Trp Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe
120 125 130

tac tac cta tat ggc atg atc tat gtt ttg gtg agc tct tagaacaaca c 490
Tyr Tyr Leu Tyr Gly Met Ile Tyr Val Leu Val Ser Ser
135 140

acagaagaat tggtccagtt aagtgcatgc aaaaagccac caaatgaagg gattctatcc 550
agcaagatcc tgtccaagag tagcctgtgg aatctgatca gttactttaa aaaatgactc 610
cttatttttt aaatgtttcc acatttttgc ttgtggaaag actgttttca tatgttatac 670
tcagataaag attttaaatg gtattacgta taaattaata taaaatgatt acctctggtg 730
ttgacaggtt tgaacttgca cttcttaagg aacagccata atcctctgaa tgatgcatta 790
attactgact gtcctagtac attggaagct tttgtttata ggaacttgta gggctcattt 850
tggtttcatt gaaacagtat ctaattataa attagctgta gatatcaggt gcttctgatg 910
aagtgaaaat gtatatctga ctagtgggaa acttcatggg tttcctcatc tgtcatgtcg 970
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att 1033

<210> 22

<211> 144

<212> PRT

<213> Homo sapiens

<400> 22

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                                                    Met Ala Phe
                                                     1
Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu Leu Thr Ala Ala
      5                  10                  15
Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala Phe Asp Glu Leu Lys
 20                  25                  30                  35
Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys Asn Thr Leu Asn Pro Leu
                 40                  45                  50
Val Leu Pro Glu Tyr Leu Ile His Ala Phe Phe Cys Val Met Phe Leu
             55                  60                  65
Cys Ala Ala Glu Trp Leu Thr Leu Gly Leu Asn Met Pro Leu Leu Ala
         70                  75                  80
Tyr His Ile Trp Arg Tyr Met Ser Arg Pro Val Met Ser Gly Pro Gly
     85                  90                  95
Leu Tyr Asp Pro Thr Thr Ile Met Asn Ala Asp Ile Leu Ala Tyr Cys
100                 105                 110                 115
Gln Lys Glu Gly Trp Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe
                120                 125                 130
Tyr Tyr Leu Tyr Gly Met Ile Tyr Val Leu Val Ser Ser
             135                 140
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<210> 23

<211> 1270

<212> DNA

<213> Homo sapiens

<400> 23

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tggccggcgc cgctgtgggg acagc atg agc ggc ggt tgg atg gcg cag gtt      112
                              Met Ser Gly Gly Trp Met Ala Gln Val
                                1               5
gga gcg tgg cga aca ggg gct ctg ggc ctg gcg ctg ctg ctg ctg ctc      160
Gly Ala Trp Arg Thr Gly Ala Leu Gly Leu Ala Leu Leu Leu Leu Leu
 10                  15                  20                  25
ggc ctc gga cta ggc ctg gag gcc gcc gcg agc ccg ctt tcc acc ccg      208
Gly Leu Gly Leu Gly Leu Glu Ala Ala Ala Ser Pro Leu Ser Thr Pro
                 30                  35                  40
acc tct gcc cag gcc gca ggc ccc agc tca ggc tcg tgc cca ccc acc      256
Thr Ser Ala Gln Ala Ala Gly Pro Ser Ser Gly Ser Cys Pro Pro Thr
             45                  50                  55
aag ttc cag tgc cgc acc agt ggc tta tgc gtg ccc ctc acc tgg cgc      304
Lys Phe Gln Cys Arg Thr Ser Gly Leu Cys Val Pro Leu Thr Trp Arg
         60                  65                  70
tgc gac agg gac ttg gac tgc agc gat ggc agc gat gag gag gag tgc      352
Cys Asp Arg Asp Leu Asp Cys Ser Asp Gly Ser Asp Glu Glu Glu Cys
     75                  80                  85
agg att gag cca tgt acc cag aaa ggg caa tgc cca ccg ccc cct ggc      400
Arg Ile Glu Pro Cys Thr Gln Lys Gly Gln Cys Pro Pro Pro Pro Gly
 90                  95                  100                 105
ctc ccc tgc ccc tgc acc ggc gtc agt gac tgc tct ggg gga act gac      448
Leu Pro Cys Pro Cys Thr Gly Val Ser Asp Cys Ser Gly Gly Thr Asp
                110                 115                 120
aag aaa ctg cgc aac tgc agc cgc ctg gcc tgc cta gca ggc gag ctc      496
Lys Lys Leu Arg Asn Cys Ser Arg Leu Ala Cys Leu Ala Gly Glu Leu
            125                 130                 135
cgt tgc acg ctg agc gat gac tgc att cca ctc acg tgg cgc tgc gac      544
Arg Cys Thr Leu Ser Asp Asp Cys Ile Pro Leu Thr Trp Arg Cys Asp
        140                 145                 150
ggc cac cca gac tgt ccc gac tcc agc gac gag ctc ggc tgt gga acc      592
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Gly His Pro Asp Cys Pro Asp Ser Ser Asp Glu Leu Gly Cys Gly Thr
155 160 165

aat gag atc ctc ccg gaa ggg gat gcc aca acc atg ggg ccc cct gtg 640
Asn Glu Ile Leu Pro Glu Gly Asp Ala Thr Thr Met Gly Pro Pro Val
170 175 180 185

acc ctg gag agt gtc acc tct ctc agg aat gcc aca acc atg ggg ccc 688
Thr Leu Glu Ser Val Thr Ser Leu Arg Asn Ala Thr Thr Met Gly Pro
190 195 200

cct gtg acc ctg gag agt gtc ccc tct gtc ggg aat gcc aca tcc tcc 736
Pro Val Thr Leu Glu Ser Val Pro Ser Val Gly Asn Ala Thr Ser Ser
205 210 215

tct gcc gga gac cag tct gga agc cca act gcc tat ggg gtt att gca 784
Ser Ala Gly Asp Gln Ser Gly Ser Pro Thr Ala Tyr Gly Val Ile Ala
220 225 230

gct gct gcg gtg ctc agt gca agc ctg gtc acc gcc acc ctc ctc ctt 832
Ala Ala Ala Val Leu Ser Ala Ser Leu Val Thr Ala Thr Leu Leu Leu
235 240 245

ttg tcc tgg ctc cga gcc cag gag cgc ctc cgc cca ctg ggg tta ctg 880
Leu Ser Trp Leu Arg Ala Gln Glu Arg Leu Arg Pro Leu Gly Leu Leu
250 255 260 265

gtg gcc atg aag gag tcc ctg ctg ctg tca gaa cag aag acc tcg ctg 928
Val Ala Met Lys Glu Ser Leu Leu Leu Ser Glu Gln Lys Thr Ser Leu
270 275 280

ccc tgaggacaag cacttgccac caccgtcact cagccctggg cgtagccgg 980
Pro

acaggaggag agcagtgatg cggatgggta cccgggcaca ccagccctca gagacctgag 1040
ctcttctggc cacgtggaac ctcgaacccg agctcctgca gaagtggccc tggagattga 1100
gggtccctgg acactcccta tggagatccg gggagctagg atggggaacc tgccacagcc 1160
agaactgagg ggctggcccc aggcagctcc caggggtag aacggccctg tgcttaagac 1220
actcctgctg ccccgtctga gggtggcgat taaagttgct tcacatcctc 1270

<210> 24

<211> 282

<212> PRT

<213> Homo sapiens

<400> 24

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                                      1               5
Gly Ala Trp Arg Thr Gly Ala Leu Gly Leu Ala Leu Leu Leu Leu Leu
 10                  15                  20                  25
Gly Leu Gly Leu Gly Leu Glu Ala Ala Ala Ser Pro Leu Ser Thr Pro
                 30                  35                  40
Thr Ser Ala Gln Ala Ala Gly Pro Ser Ser Gly Ser Cys Pro Pro Thr
             45                  50                  55
Lys Phe Gln Cys Arg Thr Ser Gly Leu Cys Val Pro Leu Thr Trp Arg
         60                  65                  70
Cys Asp Arg Asp Leu Asp Cys Ser Asp Gly Ser Asp Glu Glu Glu Cys
     75                  80                  85
Arg Ile Glu Pro Cys Thr Gln Lys Gly Gln Cys Pro Pro Pro Pro Gly
 90                  95                  100                 105
Leu Pro Cys Pro Cys Thr Gly Val Ser Asp Cys Ser Gly Gly Thr Asp
                110                 115                 120
Lys Lys Leu Arg Asn Cys Ser Arg Leu Ala Cys Leu Ala Gly Glu Leu
            125                 130                 135
Arg Cys Thr Leu Ser Asp Asp Cys Ile Pro Leu Thr Trp Arg Cys Asp
        140                 145                 150
Gly His Pro Asp Cys Pro Asp Ser Ser Asp Glu Leu Gly Cys Gly Thr
    155                 160                 165
Asn Glu Ile Leu Pro Glu Gly Asp Ala Thr Thr Met Gly Pro Pro Val
170                 175                 180                 185
Thr Leu Glu Ser Val Thr Ser Leu Arg Asn Ala Thr Thr Met Gly Pro
                190                 195                 200
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Pro Val Thr Leu Glu Ser Val Pro Ser Val Gly Asn Ala Thr Ser Ser
205 210 215
Ser Ala Gly Asp Gln Ser Gly Ser Pro Thr Ala Tyr Gly Val Ile Ala
220 225 230
Ala Ala Ala Val Leu Ser Ala Ser Leu Val Thr Ala Thr Leu Leu Leu
235 240 245
Leu Ser Trp Leu Arg Ala Gln Glu Arg Leu Arg Pro Leu Gly Leu Leu
250 255 260 265
Val Ala Met Lys Glu Ser Leu Leu Leu Ser Glu Gln Lys Thr Ser Leu
270 275 280
Pro

<210> 25
<211> 836
<212> DNA
<213> Homo sapiens

<400> 25
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gcgcccggcc ccgactccgg ggtaaagagc cccggagcgg agcagcgctg gccgcgtgcc 120
gcctccggag ccggcagccc ccatggctgg gggttatgga gtg atg ggt gac gat 175
Met Gly Asp Asp
1
ggt tct att gat tat act gtt cac gaa gcc tgg aat gaa gcc acc aat 223
Gly Ser Ile Asp Tyr Thr Val His Glu Ala Trp Asn Glu Ala Thr Asn
5 10 15 20
gtt tac ttg ata gtt atc ctt gtt agc ttc ggt ctc ttc atg tat gcc 271
Val Tyr Leu Ile Val Ile Leu Val Ser Phe Gly Leu Phe Met Tyr Ala
25 30 35
aaa agg aac aaa agg aga att atg agg ata ttc agt gtg cca cct aca 319
Lys Arg Asn Lys Arg Arg Ile Met Arg Ile Phe Ser Val Pro Pro Thr
40 45 50

gag gaa act ttg tca gag ccc aac ttt tat gac acg ata agc aag att 367
Glu Glu Thr Leu Ser Glu Pro Asn Phe Tyr Asp Thr Ile Ser Lys Ile
55 60 65

cgt tta aga caa caa ctg gaa atg tat tcc att tca aga aag tac gac 415
Arg Leu Arg Gln Gln Leu Glu Met Tyr Ser Ile Ser Arg Lys Tyr Asp
70 75 80

tat cag cag cca caa aac caa gct gac agt gtg caa ctc tca ttg gaa 463
Tyr Gln Gln Pro Gln Asn Gln Ala Asp Ser Val Gln Leu Ser Leu Glu
85 90 95 100

tgaaacc tcagaaaaag agcaacagaa gtaattgttt caagctcctg attctttcta 520

ctaaatcatg aacagcttta aaaacatttc tgtctgcata aaattatttt acttgtaact 580

tttccccaat tgttctgtgc attgttttgc ctttttaaat tacatctcca agtggctcaa 640

aaggccttga cacagggaac ctgcacatat ccaggatatg tgtaaccagc gatggtgact 700

tgaccttgcc aagacctgtg attccttcag gatacaatca gtgagaaata aaaacacatc 760

ttgggaagtg ggaatcctgg agtttatgcc atttgcaata ttaaaaaata aaaatgcaag 820

ttattatttc aataat 836

<210> 26

<211> 100

<212> PRT

<213> Homo sapiens

<400> 26

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Gly Ser Ile Asp Tyr Thr Val His Glu Ala Trp Asn Glu Ala Thr Asn
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Val Tyr Leu Ile Val Ile Leu Val Ser Phe Gly Leu Phe Met Tyr Ala
25 30 35

Lys Arg Asn Lys Arg Arg Ile Met Arg Ile Phe Ser Val Pro Pro Thr
40 45 50

Glu Glu Thr Leu Ser Glu Pro Asn Phe Tyr Asp Thr Ile Ser Lys Ile

55 60 65

Arg Leu Arg Gln Gln Leu Glu Met Tyr Ser Ile Ser Arg Lys Tyr Asp

70 75 80

Tyr Gln Gln Pro Gln Asn Gln Ala Asp Ser Val Gln Leu Ser Leu Glu

85 90 95 100

<210> 27

<211> 1022

<212> DNA

<213> Homo sapiens

<400> 27

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Met

1

gga aca gcc gac agt gat gag atg gcc ccg gag gcc cca cag cac acc 106

Gly Thr Ala Asp Ser Asp Glu Met Ala Pro Glu Ala Pro Gln His Thr

5 10 15

cac atc gat gtg cac atc cac cag gag tct gcc ctg gcc aag ctc ctg 154

His Ile Asp Val His Ile His Gln Glu Ser Ala Leu Ala Lys Leu Leu

20 25 30

ctc acc tgc tgc tct gcg ctg cgg ccc cgg gcc acc cag gcc agg ggc 202

Leu Thr Cys Cys Ser Ala Leu Arg Pro Arg Ala Thr Gln Ala Arg Gly

35 40 45

agc agc cgg ctg ctg gtg gcc tcg tgg gtg atg cag atc gtg ctg ggg 250

Ser Ser Arg Leu Leu Val Ala Ser Trp Val Met Gln Ile Val Leu Gly

50 55 60 65

atc ttg agt gca gtc cta gga gga ttt ttc tac atc cgc gac tac acc 298

Ile Leu Ser Ala Val Leu Gly Gly Phe Phe Tyr Ile Arg Asp Tyr Thr

70 75 80

ctc ctc gtc acc tcg gga gct gcc atc tgg aca ggg gct gtg gct gtg 346

Leu Leu Val Thr Ser Gly Ala Ala Ile Trp Thr Gly Ala Val Ala Val

85 90 95

ctg gct gga gct gct gcc ttc att tac gag aaa cgg ggt ggt aca tac 394
Leu Ala Gly Ala Ala Ala Phe Ile Tyr Glu Lys Arg Gly Gly Thr Tyr
100 105 110

tgg gcc ctg ctg agg act ctg cta gcg ctg gca gct ttc tcc aca gcc 442
Trp Ala Leu Leu Arg Thr Leu Leu Ala Leu Ala Ala Phe Ser Thr Ala
115 120 125

atc gct gcc ctc aaa ctt tgg aat gaa gat ttc cga tat ggc tac tct 490
Ile Ala Ala Leu Lys Leu Trp Asn Glu Asp Phe Arg Tyr Gly Tyr Ser
130 135 140 145

tat tac aac agt gcc tgc cgc atc tcc agc tcg agt gac tgg aac act 538
Tyr Tyr Asn Ser Ala Cys Arg Ile Ser Ser Ser Ser Asp Trp Asn Thr
150 155 160

cca gcc ccc act cag agt cca gaa gaa gtc aga agg cta cac cta tgt 586
Pro Ala Pro Thr Gln Ser Pro Glu Glu Val Arg Arg Leu His Leu Cys
165 170 175

acc tcc ttc atg gac atg ctg aag gcc ttg ttc aga acc ctt cag gcc 634
Thr Ser Phe Met Asp Met Leu Lys Ala Leu Phe Arg Thr Leu Gln Ala
180 185 190

atg ctc ttg ggt gtc tgg att ctg ctg ctt ctg gca tct ctg gcc cct 682
Met Leu Leu Gly Val Trp Ile Leu Leu Leu Leu Ala Ser Leu Ala Pro
195 200 205

ctg tgg ctg tac tgc tgg aga atg ttc cca acc aaa ggg gtg agt ccc 730
Leu Trp Leu Tyr Cys Trp Arg Met Phe Pro Thr Lys Gly Val Ser Pro
210 215 220 225

taagaaaaga gaccagaagg aaatgttgga agtgagtgga atctagccat gcctctcctg 790

attattagtg cctggtgctt ctgcaccggg cgtccctgca tctgactgct ggaagaagaa 850

ccagactgag gaaaagaggc tcttcaacag ccccagttat cctggcccca tgaccgtggc 910

cacagccctg ctccagcagc acttgcccat tccttacacc ccttccccat cctgctccgc 970

ttcatgtccc ctcctgagta gtcatgtgat aataaactct catgttattg tt 1022

<210> 28

<211> 225

<212> PRT

<213> Homo sapiens

<400> 28

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                5                  10                  15
His Ile Asp Val His Ile His Gln Glu Ser Ala Leu Ala Lys Leu Leu
            20                  25                  30
Leu Thr Cys Cys Ser Ala Leu Arg Pro Arg Ala Thr Gln Ala Arg Gly
        35                  40                  45
Ser Ser Arg Leu Leu Val Ala Ser Trp Val Met Gln Ile Val Leu Gly
    50                  55                  60                  65
Ile Leu Ser Ala Val Leu Gly Gly Phe Phe Tyr Ile Arg Asp Tyr Thr
                70                  75                  80
Leu Leu Val Thr Ser Gly Ala Ala Ile Trp Thr Gly Ala Val Ala Val
            85                  90                  95
Leu Ala Gly Ala Ala Ala Phe Ile Tyr Glu Lys Arg Gly Gly Thr Tyr
        100                 105                 110
Trp Ala Leu Leu Arg Thr Leu Leu Ala Leu Ala Ala Phe Ser Thr Ala
    115                 120                 125
Ile Ala Ala Leu Lys Leu Trp Asn Glu Asp Phe Arg Tyr Gly Tyr Ser
130                 135                 140                 145
Tyr Tyr Asn Ser Ala Cys Arg Ile Ser Ser Ser Ser Asp Trp Asn Thr
                150                 155                 160
Pro Ala Pro Thr Gln Ser Pro Glu Glu Val Arg Arg Leu His Leu Cys
            165                 170                 175
Thr Ser Phe Met Asp Met Leu Lys Ala Leu Phe Arg Thr Leu Gln Ala
        180                 185                 190
Met Leu Leu Gly Val Trp Ile Leu Leu Leu Leu Ala Ser Leu Ala Pro
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195 200 205

Leu Trp Leu Tyr Cys Trp Arg Met Phe Pro Thr Lys Gly Val Ser Pro

210 215 220 225